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ABSTRACT

How does a psychotic mother affect the emotional development of her child? Studies have found that mental illness in the family and intra-family conflict are important concomitants of neurosis, but most studies have failed to link the child's experiences with a mentally ill mother clearly with later development of a similar mental illness. Our own studies of released mental patients led us to an examination of their "parenting" roles, and from there into the question of the genetic transmission of schizophrenia. We began to study the genetic theory of mental illness, specifically, the transmission of schizophrenia. The study's comparison samples were distributed as follows: 57 children of welfare recipients, 24 children of convicts, 50 children of matched controls, and 51 children of random normals. Since the genetic theories of the transmission of schizophrenia are of concern in this report, our analysis centers on children of schizophrenic mothers. Children of welfare recipients are used to control for stigma and "official" poverty, children of matched socio-economic status control for "normal" urban poverty, and children of the randomly selected sample to tell us what "average" urban children were experiencing during the 15 years from 1956 to 1971. (Author/JM)

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CHILDREN OF DEVIANTS: A FIFTEEN YEAR FOLLOW-UP STUDY OF CHILDREN OF SCHIZOPHRENIC MOTHERS, WELFARE MOTHERS, MATCHED CONTROLS AND RANDOM URBAN FAMILIES

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FOR L.M.

Who made it happen.

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Report on Contract HSM - 42 - 71 - 24

INTRODUCTION

It was 1956. The urban dwellers of America were living at an ever-faster pace of expansion and migration. Life was changing, and the great cities were swelling with waves of immigrants. Oakland, California, was a city of industry, shipping and spreading suburbs. In 1956, 908,209 persons lived there, over one-fourth of them non-white, and the overall median income was rising rapidly. By 1971 there had been dramatic changes: 1,730,184 persons lived there, an increase of nearly 20%, over one-half of the population was non-white and the chronic high unemployment rate left city streets crowded with young men out of jobs. Welfare rates had more than doubled and the school system was torn with strife.

This study began in 1956. Since that year we have studied the experiences of state mental patients, sponsored by three NIMH grants (MH 1269, MH 01646 and MH 16337), and have been quite successful in following the patients returning to homes in this "All-American city." At first, we were concerned about the community careers of these released state hospital patients.[1] Our focus then shifted to the development of a theory of rehabilitation based on personal accounts of ex-patients' experiences as they re-entered civilian lives.[2]

In these first studies, we investigated the sociological and psychological factors associated with state mental hospitalization. One of our researches[3] led the California State Legislature into a series of investigations that culminated with a sweeping revision of state commitment laws. Since that time, California's large state hospitals have been emptying out and local community psychiatric services have come to the fore, providing treatment within the patients' own community. Newer sociological and psychiatric theories have continued to attack the older medical theories of mental illness, and many persons who were once labeled as "mentally ill" and insti-

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1. As reported in Worlds That Fail and Disbanded Worlds. Dorothy Miller, Worlds That Fail: Part 1 Retrospective Analysis of Mental Patients' Careers, Calif.: Dept. of Mental Hygiene, 1965. Dorothy Miller and William Dawson, Worlds That Fail Part II: Disbanded Worlds: A Study of Returns to the Mental Hospital, Calif.: Dept. of Mental Hygiene, 1965.

2. See Reconstruction of the Self. Dorothy Miller, William Dawson, Robert Barnhouse, and Richard Fallenbaum, 'Aftermath--The Community Readjustment of Post-Hospital Mental Patients," The Psychiatric Quarterly Supplement, Part 2, Utica, N.Y.: State Hospitals Press, 1966.

3. See County Lunacy Commission Hearings. Dorothy Miller and Michael Schwartz, "County Lunacy Commission Hearings: Some Observations of Commitments to a State Mental Hospital," Social Problems, Vol. 14, #1, Summer 1966.

tutionalized in large, remote state hospitals are now being released. However, as mental patients return to their families and community, many persons are concerned about the potential damage they may cause in the lives of those about them.

How does a psychotic mother affect the emotional development of her child? Studies have found that mental illness in the family and intra-family conflict are important concomitants of neurosis, but most studies have failed to link the child's experiences with a mentally ill mother clearly with later development of a similar mental illness. Rice et al. (1971),[4] in a study of children of mentally ill parents, found that some children were intimately and seriously involved in the bizarre symptoms of their parents while others seemed unaware of the "illness." Our own studies of released mental patients led us to an examination of their parenting roles, and from there into the question of the genetic transmission of schizophrenia. In the course of these years of study we found that there are many questionable assumptions made about state mental patients. We began to study the genetic theory of mental illness, specifically, the transmission of schizophrenia. If Kallman,[5] Karrlson,[6] and others are correct, about one-fifth of all the children of schizophrenic mothers will become schizophrenic themselves.

Among all state hospital patients returning to Oakland in 1956, we found 79 who were parents of a total of 265 minor children. These families were distributed as follows:

PARENT TYPE	NUMBER OF PARENTS	NUMBER OF CHILDREN
Schizophrenic mothers	28	108
Schizophrenic fathers	17	70
Other mental illness mothers	24	57
Other mental illness fathers	10	30
Total	79	265

These children appear to form a "high risk" population, i.e., persons considered volnerable to psychiatric breakdown even prior to the actual manifestation of illness. Investigators engaged in high-risk research hope to identify pre-existing characteristics which clearly differentiate those who later develop schizophrenia from those who do not -- clearly an important step in determining the etiology of schizophrenia.7

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4. E.P. Rice, M.C. Ekdahl and Leo Miller, Children of Mentally Ill Parents, N.Y.: Behaviorial Publ., 1971.

5. F.J. Kallman, The Genetics of Schizophrenia, N.Y.: Augustin, 1938.

6. Jon L. Karlsson, "Genealogic Studies of Schizophrenia," in David Rosenthal and Seymour Kety (Eds) The Transmission of Schizophrenia, N.Y.: Pergamon Press, 1968, pp. 85-94.

7. See Special Report: Schizophrenia, NIMH, Center for Studies of Schizophrenia, p. 19.

By 1970 these children, on the average, were old enough to have experienced the "first wave" schizophrenic breakdown, as described by Mednick.[8] Their average age was as follows:

PARENT TYPE	AVERAGE AGE OF CHILD
Schizophrenic mother	19 years
Schizophrenic father	20 years
Other mental illness mothers	20 years
Other mental illness fathers	21 years

According to many studies, the time of first onset of schizophrenia is likely to fall between the ages of 18 to 21 years. If the genetic theories hold true, many of the children of our state hospital patients should now be showing signs of mental breakdown. For those children of mental patients who were reared by their ill parent, symptomology may reflect learning and coping techniques; we could compare the children who were reared by their mentally ill parents with those who were placed outside the home to control for this "learning factor." Heston and Denny,[9] following children of schizophrenics who had been reared in adoptive homes, developed findings consistent with those of Kallman,[10] Slater[11] and many others. Schizophrenia occurs unusually frequently in relatives of schizophrenics. Interestingly, Rosenthal and Kety[12] report similar findings for adopted schizophrenics.

It is essential to recognize that many former state mental patients are poor, from minority groups, in social difficulties of all kinds and, generally speaking, living within the culture of poverty. They are beset by many social problems, are often drunk, sometimes arrested, poorly educated, chronically unemployed, and lack stable homes or reliable resources. Their children are subjected to many environmental hardships. How do we unravel the etiological tangles of emotional and mental problems occurring in such children? How much of such disorders can be related to the genetic transmission of schizophrenia? How much to the stress of growing up poor in an urban ghetto? Clausen has stated the case as follows:

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8. Mednich, Sarnoff, and Fini Schulsinger, "Some Premorbid Characteristics Related to Breakdown in Children with Schizophrenic Mothers," in David Rosenthal and Seymour Kety (Eds) op. cit., pp. 267-291.

9. L. Heston and Duane Denney, "Interactions between Early Life Experience and Biological Factors in Schizophrenia" in David Rosenthal and Seymour Kety (Eds) op. cit., pp. 363-376.

10. Kallman, op. cit.

11. E. Slater, "The Monoginic Theory of Schizophrenia," Acta Genet (Basil) 8, 50-6, 1958.

12. David Rosenthal and Seymour Kety, op. cit., 1968.

> One can hardly doubt that the conditions of life in the lower class are "harder" than those in the middle class. They call for different modes of coping and defense. They seem to produce more psychosomatic symptoms, more concern with concrete problems of the here and now, less pre-occupation with abstract relationships and with feelings. But there is no evidence that any of these responses is linked with schizophrenia, nor that a hard life is more schizophrenic than a soft one. The "stresses" that seem most likely to result in schizophrenia are those that undermine the establishment of identity or self-esteem or that pose insoluable dilemmas for the individual.[13]

The issue of the genetic transmission of schizophrenia poses complex methodological problems. We have tried to control for the heredity-environment question by selecting comparison groups of families who share common experiences of stigma: poverty, parental separation, and urban stress.[14] Our comparison samples were drawn from 1956 welfare cases, from families of convicts released in 1956, and from "matched" families of similar socio-economic class who resided in the same neighborhoods as our children of mental patients. We also selected a random sample of "normal" families, drawn from the same urban schools which children of mental patients were attending in 1956.

When we completed our sampling of comparison groups as of 1956, we had a total of 447 children who lived in Oakland, California. Many of these subjects could be described as children of deviants.

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13. John A. Clausen, "Interpersonal Factors in the Transmission of Schizophrenia (Ed) David Rosenthal and Seymour S. Kety, Pergomon Press (Oxford: 1968), p. 256.

14. As Leon Eisenberg has noted, "The logitudinal study does not however necessarily answer etiologic questions. It should be free of the antecedent-consequent-social field confusion which confounds cross-sectional studies but it will not ascertain causes unless specific etiologic theories are tested as part of the logitudinal design." Further, if there is a gene-environment interaction in the production of schizophrenia, "then it follows that genetic effects will be detectable only in environments that permit their manifestation, and, conversely, that environmental effects will be detectable only in populations whose genetic characteristics are not so loaded as to wash out environmental factors."

As to the impact of poverty, Kohn has found that while there is a higher prevalence of schizophrenia in the lower classes, the relationship between social class and schizophrenia is not clear. He called for a well-controlled study of family relationships of schizophrenics and normal persons from lower- and working-class backgrounds.

Melvin Kohn, "Social Class and Schizophrenia: A Critical Review," in David Rosenthal and Seymour Kety (Eds) op. cit., pp. 155-174, 425.

The comparison samples were distributed as follows:

COMPARISON GROUP	NUMBER OF CHILDREN
Children of Welfare Recipients	57
Children of Convicts	24
Children of Matched Controls	50
Children of Random Normals	51

Once these samples were selected, we set out to trace all of the subjects through all existing administrative and public records, including schools, social agencies, courts, hospitals, marriage records, divorce decrees, birth certificates and death records. What official notice was taken of these children? What kind of "official trouble" did they get into?

Since the genetic theories of the transmission of schizophrenia are of concern in this report, our analysis centers on children of schizophrenic mothers. Children of welfare recipients are used to control for stigma and "official" poverty, children of matched socio-economic status control for "normal" urban poverty, and children of the randomly selected sample tell us what "average" urban children were experiencing during these fifteen years.

In this report, we will present our analysis of these four groups, comparing them with regard to three major dimensions:

1) social background (those variables they were "born with"),

2) life experiences (those things they did), and

3) present level of social adjustment (how they are making out at this time, now that they are young adults).

Upon examination of these three factors, many questions remain unanswered. We cannot predict which subjects will become schizophrenic, or even satisfactorily discribe the processes that affected those who were later diagnosed as schizophrenic.

We wanted to know more about these childrens' lives. We wanted to meet with them and discover how they perceived their lives. How did they cope with the many stresses of a psychotic mother, a drunken father, of poverty, prejudice and conflict? How did they perceive their worlds, and how did they react to the many pressures of the underlife of a great urban center? In order to do this, we needed to locate and interview these subjects.

Would it be possible to locate a significant number of these urban children now that fifteen years had gone by? If we did locate them, could we get these young adults to talk with us about their life experiences, about how they viewed their problems and about how they coped with life as a child of a deviant? To test the feasibility of this research method we set out to follow-up one of our original comparison samples, the twenty-four children of convicts, as a pilot study to determine how many subjects we could find

and interview. We include the results of that study here.

Children of schizophrenic mothers are thought to suffer greatly from their mother's psychotic episodes. Many of these children are subjected to parental neglect, some are reared away from their mother's influence, and many spend temporary periods in alternative homes. Though many writers feel that it is damaging for children to be reared by a mentally ill mother,[15] there are a paucity of detailed studies on the impact of a mother's psychiatric illness upon her children. Two recent studies of families in crisis over a mother's mental illness report short-range reactions of the children. Rice, Ekdahl and Miller[16] found that the children's involvement in the symtomology of the parents' illness ranged from relatively minor upsetting incidents to serious, prolonged episodes. Some children showed confusion, bewilderment, fright or sadness; some received unprovoked beatings and serious physical injuries. However, these authors stated,

> To determine the long-term effect of such experiences on the lives of these children would require an intensive study of the children over a longer period of time than these studies covered.[17]

Anthony[18] shows that children exposed to the mental illness of a parent employ a number of strategies for dealing with the crisis. Acceptance of the mother's delusion was frequently made a test of loyalty and love. The children were often uncritical of evidence offered by the deluded parent as if making implicit allowances for her motivation.[19] Further, he stated that

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15. See (1) Doniger, C.R., "Children Whose Mothers are in a Mental Hospital," Journal of Child Psychology and Psychiatry and Allied Disciplines, July-Dec. 1962 (3), p. 165-173, (2) Sobel, D.E., "Children of Schizophrenic Parents," American Journal of Psychiatry, Dec. 1961 (118) p. 512-67, and (3) Sessex, J.N., F. Gassman, and S.C. Roffet, "Adjustment of Children with Psychotic Mothers in the Home," American Journal of Orthopsychiatry, Oct. 1963 (33) p 849-954.

16. Rice, E.P., Ekdahl, M.C. and Miller, Leo, op. cit.

17. Ibid.

18. Anthony, E. James, M.D., "The Mutative Impact of Serious Mental and Physical Illness in a Parent on Family Life," in James E. Anthony and Cyrille Kaupernik (eds.), The Child in his Family, Wiley Interscience (New York: 1970) pp. 131-164.

19. Anthony, James E., M.D., "Folie a Deux - A Developmental Failure in the Process of Separation - Individuation," in Festschrift in Honor of Margaret Mahler, International University Press (New York: in press).

> Within the interpersonal matrix, a great deal of psychopathology can develop insidiously within individuals, especially children, without it becoming recognizable. Abnormal attitudes and behavior are assimilated and symptoms are exchanged with surprising facility.[6]

The causal link between traumatic experiences in childhood and the development of psychopathology is by no means clearly established. Recent work by the Dohrenwends[7] raises serious questions about the impact of remote and even recent stresses. As Tyhurst[8] wrote:

> Our tendency to require the appearance of symptoms as invariable signs of illness, and therefore, a need for psychiatric treatment, require some revision. It would be probably more appropriate if we regarded the transition state and its accompanying disturbance as an opportunity for growth.

Also, as Kohn has pointed out, the children of schizophrenics may suffer the same traumas as children of the working class. In this report we will attempt to examine both environmental stress and potential genetic impact upon each subject's later social adjustment.

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6. Ibid, p. 147.

7. Dohrenwend, B.S., and B.R., "Social Class and the Relation of Remote and Recent Stressors," paper presented at the Fourth Annual Conference on Life History Research on Psychopathology, Washington University School of Medicine, November, 1970 (mimeo).

8. Tyhurst, J.S., "The Role of Transition States -- Invluding Disasters -- in Mental Illness," in Symposium on Preventative and Social Psychiatry, Washington D.C., 1957.

FIRST DIMENSION: SOCIAL BACKGROUND FACTORS

Table I presents the comparisons of children by race, age, socio-economic status, family size, type of family structure, and amount of parental pathology.

As can be seen, most of the children were poor, non-white, and from large families. Many were reared in fatherless homes or in homes where parents were behaving in socially unacceptable ways. Children of schizophrenic mothers shared most of these experiences with children of welfare mothers and children of other lower-class families.

TABLE I: SOCIAL BACKGROUND VARIABLES

BACKGROUND VARIABLE	SM	WM	MC	NS
Non-white	59%	74%	76%	47%
Average age of subject	19 yrs	22.4 yrs	22 yrs	23 yrs
Parents on welfare	34%	100%	28%	8%
Average number of children	4	3.8	4	2.6
Parents, divorced or separated	31%	30%	14%	6%
Father, white collar	20%	6%	6%	14%
Father, alcoholic	25%	33%	10%	6%
Father, drug record	-	4%	-	-
Father, crime record	21%	31%	16%	6%
Mother, crime record	7%	29%	-	2%
Mother, alcoholic	2%	-	8%	2%
Mother, mentally ill	100%	4%	2%	-

SM = Schizophrenic Mothers
WM = Welfare Mothers
MC: Matched Controls
NS: Normal Sample

One-third of the children of schizophrenic mothers were reared in homes where public assistance was the main source of income, a number as for the matched families. Only 8% of the normal families in the urban neighborhoods were on welfare. What is the long range effect of growing up poor? A number of studies among the welfare poor suggest that the life style of poverty is immature in a number of respects, including a greater tendency toward impulsivity, lack of goal commitment, magical thinking, physical learning and behavioral styles, low frustration tolerances, and overly concrete attitudes. Based on the findings of the Cornell team and other studies, Beiser[1]

1. Beiser, Morton, "Poverty, Social Disintegrating and Personality," The Journal of Social Forces, January 1965, XXI, 1.

proposes that the very poor in disorganized communities tend to lack the developmental experiences that Erik Erikson postulates as fundamental to the well-integrated personality. Their experiences tend to produce basic mistrust rather than trust, shame instead of autonomy, doubt rather than initiative, a sense of failure rather than mastery, isolation rather than intimacy and despair rather than ego integrity. The lower-lower class person may be forced to regard the dominant social structure as basically unrelated to his needs. He may tend to give up on an instrumental, actively coping orientation, and retreat to an anxiety-produced depression partially alleviated by meager and inappropriate defenses. He may seek immediate gratification through impulsive expressiveness, self-dramatizing fantasies, or escapism through the aid of narcotics and alcohol.[2]

If there were a straight-forward relationship between poverty and mental illness, we would expect children of welfare mothers to have a high incidence of emotional disorders. Children of schizophrenic mothers also raised in extreme poverty would be particularly vulnerable to mental illness. However, even though most of the families lived the life style of the lower class, one-fifth of the children of schizophrenic mothers had fathers who were in a white-collar occupation -- the largest percentage in the entire study.

Children of schizophrenic mothers in our sample came from three major racial groups: White, Black and Mexican-American. Table II compares the four samples by their racial distribution:

TABLE II: RACE OF CHILDREN

RACE	SM	WM	MC	NS
White	41%	26%	24%	53%
Black	46	72	64	39
Mex.-Amer., Other	13	2	12	8
Total	100%	100%	100%	100%

SM = Schizophrenic Mothers
WM = Welfare Mothers
MC = Matched Controls
NS = Normal Sample

2. See (1) Growing Up Poor, HEW (1966), (2) Vernon L. Allen (ed.), Psychological Factors in Poverty, Markham Pub. Co. (1970), and (3) Louis Kriesberg, Mothers in Poverty, Aldine Press (1970).

As can be seen, only about one half of the children of schizophrenic mothers were black, while three-fourths of the welfare children and two-thirds of the control group children were black.

What is it like to grow up black in Oakland? One black writer described the urban setting for this study as follows:

> Oakland is a cracker town, a 44% black urban plantation, a center of bigotry, a segregated dead end for people of color, and the birthplace of the Black Panther Party.[3]

Much has been written about the black lower-class family.[4] Lee Rainwater has stated:

> Economic marginality and racial oppression combine in the city to produce effects directly on individual lower-class Negro citizens and their families and on the community structure of the ghetto, and the ghetto structure affects the lives of individuals and their families...
>
> The individual's daily experience teaches him that his peers are dangerous, difficult, and out to exploit him or hurt him in petty and significant ways. He learns also that those who are socially superior to him take the attitude that he is of little consequence and, therefore, that he can be forced to accept inferior service and protection from the formal institutions of the community.
>
> The world of the lower class, the poor, the slum dweller, is certainly one in which social and cultural processes do much to challenge identity and little to sustain it.

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3. Major, Reginald, A Panther is a Black Cat, William Morrow & Co. (New York: 1971) p. 1. See also, Orleans, Peter and William Russell Ellis, Jr., (eds.) Race, Changes and Urban Society, Vol. 5, Urban Affairs Annual Reviews, Sage Publish. Inc. (1971).

4. For example, (1) Miller, Walter B., "Lower Class Culture as a Generating Milieu of Gang Delinquency," in Journal of Social Issues, 14:5-19 (3), 1968, (2) Gans, Herbert, The Urban Villagers, Free Press (New York: 1962), (3) Rodman, Hyman, "The Lower Class Value Stretch," Social Forces, 42:205 (3), Dec., 1963, (4) Clark, Kenneth, Dark Ghetto, Harper & Row (New York: 1965), and (5) Lewis Hyland, Blackways of Kent, University of No. Carolina Press (Chapel Hill: 1955).

5. Rainwater, Lee, Behind Ghetto Walls, Aldine Press (Chicago: 1970), p. 373.

Many of the children in our study face social and psychological struggles due to their racial identities, perhaps most noticeably in the case of the Mexican-American children living in a bicultural and a bilingual world. Such social and cultural conflicts could provide fertile ground for the development of emotional and behavioral disorders.

Nearly one-third of the children of schizophrenic mothers came from a home where the parents were divorced or separated; this figure is significantly greater than that for either the matched controls or the random sample. The fatherless home figure for the population as a whole is almost 10%. As many studies have shown,[6] growing up in a fatherless home causes many stresses. Boys seem to face particular difficulties in a fatherless home.[7] In addition to the problems of parental divorce, many of the families suffered severe marital conflict. As shown in I, many of the children's parents were alcoholic, or had criminal records: one-fourth of the fathers of children of schizophrenic mothers were alcoholic, compared to 16% of the matched controls and 6% of the random sample. One-fifth of the fathers and 7% of the schizophrenic mothers had a criminal record. Thus, these are classic multiproblem families.

The normal families in our study listed on the average of 2.6 children per family; the average number of children in families of schizophrenic mothers was 4, a statistically significant difference.[8] In general, urban living is more difficult for large families, e.g., it is harder to obtain proper housing, maintain an adequate income and provide cohesive, warm support within the family group. Children of schizophrenic mothers, in large families, must have experienced considerable stress as a result of the mother's hospitalization. Handel and Rainwater's study on this subject showed that attitudes of apathy, fatalism, magical thinking and lack of planning for the future play a part in the failure of the very poor to control the size of their families. When family size and family income needs are considered, another study has shown that large families are more often classified as being below the poverty line.[9] As can be seen, children of welfare mothers and children of other low-income matched controls also come from larger families than the random sample norm.

In summary, the demographic and social background variables, as shown in Table I, indicate that many of the children in our sample come from impoverished families within the city.

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6. See Schelsinger, B., One Parent Families, for an annotated bibliography listing many such studies.

7. Boys in Fatherless Families, HEW (1970), reviews many studies in this area.

8. This finding is similar to that found by Rice, Ekdahl and Miller in their study, Children of Mentally Ill Parents, p. 48: an average of 4.2 children per family of mentally ill mothers.

9. Orshansky, Mollie, "Children of the Poor," Social Security Bulletin, July 1963, 36, 7 p. 3-12.

II. SECOND DIMENSION: LIFE EXPERIENCES FACTORS

Table III presents the incidences of various life experiences drawn from official records of the past fifteen years.

TABLE III: LIFE EXPERIENCES (Percentage figures except for averages as noted*)

Experience Factors	SM	WM	MC	NS
Lived outside home	20%	- 13%	8%	8%
Foster home	10	2	-	-
Parental neglect	34	19	22	4
*Average number of moves	3.4	3.4	2.6	2
*Average number of schools	5	5	4.4	3.5
IQ below 79	2	9	10	4
School problems	30	51	48	22
Truant from school	3	11	14	2
Unsuccessful school career	33	44	36	18
High school graduate	77	56	64	92
Attended college	25	39	44	70
Subject now married	10	16	14	28

SM = Schizophrenic Mothers; WM = Welfare Mothers; MC = Matched Controls; NS = Normal Sample

As can be seen in Table III, most children grew up in their own homes, but significantly more children of schizophrenic mothers (20%) grew up elsewhere, including ten percent who grew up in foster or adoptive homes. Since these children would not have been reared by a schizophrenic mother, they form a special sub-group for further analysis. Children reared outside their own home are subjected to anomie situations and often have difficulty forming a valid identity. Fully 80% of the children of schizophrenic mothers were reared by them with only temporary periods of placement or care by others. Of these, one-third suffered parental neglect severe enough to come to official attention, significantly more than any other sample group. This is an added dimension reflecting family disorganization and socialization problems for the child growing up in such families. What has been the effect of the mother's illness upon them? We cannot answer this question without additional studies of these children, who now average twenty years of age.

A folk saying among the urban poor proclaims that "it is cheaper to move than to pay rent." Indeed, as shown in Table III, children of schizophrenic mothers and children of welfare mothers made nearly one-third more residential moves than did the control group or random sample children. These many changes in residence reflect the life style of the urban poor who repeatedly move from one low-cost housing unit to another. Such mobility breaks up social networks, neighborhood friendships and overall "settledness". Not only must the children deal with the psychological stresses of changing residences and peer groups, the children of the poor also change schools more

often than do children of normal families, and high residential and school mobility undoubtedly affects school experience.

Many children had school problems. As shown in Table III, one-half of the children of the poor (welfare and matched controls) experienced scholastic behavior or learning problems. Table IV compares the four groups by the type of problem noted in the school records. Many cases had multiple school problems, which we classified as is shown:

TABLE IV: TYPES OF SCHOOL PROBLEMS*

Problem Type	SM	WM	MC	NS
Psychiatric	8%	8%	-	8%
Learning	13	19	22	4
Behavior	12	25	26	4
TOTALS	33%	52%	48%	16%

SM = Schizophrenic Mothers; WM = Welfare Mothers;
MC = Matched Controls; NS = Normal Sample

*Columns show percentage incidence figures within each subsample, e.g., 8% of the children of schizophrenic mothers had school problems diagnosed as being of a psychiatric nature.

As can be seen, children of schizophrenic mothers had no more psychiatric problems than did other children of the poor. In fact, children of schizophrenic mothers had significantly fewer school problems than did children of welfare mothers or of normals (Chi Square = 4.2; p = .05). This was somewhat surprising since other researchers have found that school behavior is often a precursor of schizophrenia (Mednick and Schulsinger (1969).[1] In general, as shown in Table III, children of schizophrenic mothers had a tendency to truant less and to drop out less than did welfare children.

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1. For example, Watt, et al., report: "A substantial proportion of children destined to be schizophrenic as adults can be identified by their behavior in public school before they break down. . . .The patterns of maladjustment of preschizophrenic boys and girls are quite different. The boys show primary evidence of internal conflict or overinhibiion, with a substantial component of emotional depression. . . .The preschizophrenic girls are primarily overinhibited, with the strongest evidence of sensitiveness, conformity, and introversion, and considerably better adjustment to the teacher's expectation of appropriate behavior in school." Watt, N.F., Stolorow, R.D., Amy W. Lubensky, and D.C. McClellan, "School Adjustment and Behavior of Children Hospitalized For Schizophrenia as Adults", American Journal of Orthopsychiatry, 40 (4) July, 1970, pp. 654-655.

However, while three-fourths of the children of schizophrenics graduated from high school, only one-fourth went on to attend college, as shown below:

TABLE V: PROPORTION OF HIGH SCHOOL GRADUATE CHILDREN WHO ATTENDED COLLEGE

Schizophrenic Mothers	32%
Welfare Mothers	69
Matched Controls	69
Normal Sample	76

This significant "drop-off" phenomena needs further investigation, since the "first wave" breakdown age coincides with that age period. Do these children withdraw from the struggle for further education as a result of psychological damage?

Our study of recorded IQ scores did not reveal a major difference between the groups. Other research :s have found a high incidence of mental retardation among children of schizophrenics, but the school records did not reflect this. In fact, fewer children of schizophrenic mothers were recorded as having IQ's less than 79 than were true for other children of the poor.

One other finding which may indicate a social immaturity among children of schizophrenic mothers was that fewer subjects were married than was true for other groups. They did serve in the Armed Forces in approximately the same proportion as other groups, however, and no more were judged unfit for the draft than other male subjects, as sho' a in Table VI:

TABLE VI: RESULTS OF SELECTIVE SERVICE EXAMINATION (MALES ONLY)

Result	SM	WM	MC	NS
Passed	57%	52%	33%	56%
Failed, physical	16	19	44	33
Failed, mental	5	9	11	-
Failed, moral	21	19	11	11

It is interesting to note, however, that more sons of schizophrenic mothers and welfare mothers failed to pass the selective service tests on "moral" grounds than was true for normals or matched controls. "Failed on moral grounds" included those "unfit for service" and classified as IY due to arrest records, homosexual tendencies, etc.

In summary, the life experiences of these subjects seem to reflect the effects of growing up poor in an urban world: the children of schizophrenic mothers do not differ markedly from other children of the poor.

III. SOCIAL ADJUSTMENT FACTORS

Our study of social adjustment focuses on acts of deviancy, e.g., dependency, alcoholism, mental illness, crime, etc. These factors are presented in Table VII:

TABLE VII: SOCIAL ADJUSTMENT FACTORS FOR ALL GROUPS

Social Adjustment Factors	SM	WM	MC	NS
Deviancy Records	41%	79%	68%	25%
Unwed mother (females)	9	57	7	-
Subject on welfare	22	20	16	4
Arrest record	40	49	30	12
Alcoholism record	-	2	6	-
Drug abuse record	2	10	8	-
Suicide attempt	1	-	-	-
Mental illness record	6	8	10	2
Average number of deviancies per subject	.65	1.5	1.3	.30

SM = Schizophrenic Mothers; WM = Welfare Mothers; MC = Matched Controls; NS = Normal Sample

As can be seen, all children of the poor had significantly more records of deviancy than did the children of normals (X^2 $p < .01$). However, children of schizophrenics had significantly fewer records of deviancy than did children of welfare mothers or of matched controls (X^2 $p < .05$).

Over one-half of the daughters of welfare mothers became unwed mothers, and many of these were receiving AFDC. Nine percent of the daughters of schizophrenic mothers and 7% of the daughters of the matched controls bore children outside of wedlock. The only suicide attempt was by a child of a schizophrenic mother. About one out of every five subjects is now receiving welfare. There were no significant differences among the children of the poor regarding their own welfare careers: a reaffirmation of the cycle of poverty.

The children of the poor were significantly more likely to have been arrested (X^2 $p < .05$) than children of normal families. Table VIII shows the types of offenses for each group:

TABLE VIII: TYPES OF OFFENSE LEADING TO ARREST

Offenses	SM	WM	MC	NS
Ward of court	20%	12%	2%	8%
Only juvenile record	12	18	14	2
Alcoholic	1	-	-	2
Prostitution	-	2	-	-
Drug Addiction	-	2	2	-
Grand Theft	1	5	2	-
Robbery	5	7	6	-
Assault	3	5	4	-
Average number of arrests each	3	6	5.7	2.7

Children of schizophrenic mothers were not as likely to have engaged in felonious crimes (theft, robbery, assault: 9%) as were children of welfare mothers (17%) or children of matched controls (12%), nor were they as likely to have drug arrests when compared with the other two deviant groups.

As noted above, one of the "outcome" measures we have used is the presence or absence of records of "deviancy", including arrests, school problems, unwed motherhood, clinic referrals for behavioral or emotional problems, etc. We carefully noted all official mentions of deviancy for each subject, as recorded in Table IX:

TABLE IX: NUMBER OF DEVIANCY RECORDS

Number of Deviancy Records	SM	WM	MC	NS
None	54%	21%	32%	75%
One	32	42	34	20
Two	10	14	18	6
Three	2	14	10	-
Four	1	7	2	-
Five	1	2	4	-
Average number of records	.65	1.5	1.3	.3

Children of the poor have the greatest amount of deviancy recorded in official records. Over one-half of the children of schizophrenic mothers had no record of deviant behavior whatsoever -- significantly fewer than for other children of the poor (X^2 $p < .05$). We emphasize that this measures only recorded deviance; most deviance in our society goes undetected, with only the most unsuccessful deviants coming to the attention of the authorities.

What is the relationship between mental illness and recorded deviance? All three persons who were later diagnosed as schizophrenics had records of deviancy. In effect, this means that all the diagnosed cases had other types of behavioral or learning problems as well. However, nearly one-half of the persons with no mental illness records had other records of deviancy, some prolonged and relatively serious in nature. Thus, we did not find a clear relationship between various types of deviancy and the later development of diagnosed schizophrenics.

What are the effects upon a child of being reared by a schizophrenic mother? Are children of schizophrenic mothers who are reared outside their own homes less likely to be deviant? Table X presents a remarkable finding:

TABLE X: RELATIONSHIP BETWEEN RECORDED DEVIANCE AND HOME SITUATION

Schizophrenic Mother's Child	Non-Deviant	Deviant
Reared at home	57%	43%
Reared outside of home	30%	70%

There is a statistically highly significant finding ($p < .001$): children of schizophrenic mothers reared at home are not as likely to have a deviancy record as are children reared away from their mother. This finding obviously raises questions about the impact of a mother's mental illness upon her children. Rice, et al. leave the impression that many such children would be better off if removed from their homes:

> Needed changes in points of view include...the need to assess carefully the hazards to children in leaving them in a family with constant stress due to the parents' mental illness, and to recognize when these hazards are greater than the hazards to children in care elsewhere. [1]

What was the influence of the child's home situation upon their later development of psychiatric disorders? We found three children of schizophrenic mothers who have now been diagnosed as schizophrenic. Two of them were reared by the mother, one was reared in a foster home. An additional three children of schizophrenic mothers have been diagnosed as having "personality disorders or other mental problems". One of these was reared in the home and two were reared in foster homes.

Which variable is most important -- the mental state of the parent or the presence or absence of a home environment? Consider the deviancy records of all the children who were reared outside the home:

TABLE XI: DEVIANCE RECORDS OF CHILDREN REARED OUTSIDE THE HOME

Reared Outside Home	SM(N = 20)	WM(N = 7)	MC(N = 4)	NS(N = 5)
No deviancy records	30%	14%	--%	40%
Deviancy records	70	86	100	60
TOTALS	100%	100%	100%	100%

As can be seen, all children who were reared outside of their parent's home tend to have official records of deviancy (X^2: $p < .001$). Our samples are relatively small, but the trend seems clear.

Let us now examine the deviancy records for all children who were reared at home:

TABLE XII: DEVIANCE RECORDS OF CHILDREN REARED IN PARENT'S HOME

Reared at Home	SM(N = 88)	WM(N = 50)	MC(N = 46)	NS(N = 46)
No deviancy records	57%	22%	35%	78%
Deviancy records	43	78	65	22
TOTALS	100%	100%	100%	100%

1. Rice, et al. op. cit., p. 259.

Comparison of Tables XI and XII will show that children who are reared outside the home tend to generate more deviancy records than children who are kept in the home, irrespective of type of parent. A foster home seems to present a greater social burden than does a schizophrenic mother.

IV. THE SOCIAL FAILURE SCALE

In an effort to determine the degree of social adjustment of individual subjects, we developed a "social failure scale" based on eleven items which seemed to indicate serious environmental stress during the child's developmental period. Each subject was scored as having (0)no problem, (1)a mild problem, (2)a moderate problem or (3)a serious problem on each of the eleven items. The subjects were scored on all eleven items. Scoring ranged from a low of 3 to a high of 32. The mean score was 14.5 and the standard deviation was 4.2. We then developed four typologies as follows:

1) lowest scores were labeled "low failure potential"
2) less than average scores were labeled "medium failure potential"
3) more than average scores were labeled "moderate failure potential"
4) highest scores were labeled as "high failure potential".

Each subject was then assigned to one of these four types, resulting in the distribution shown in Table XIII:

TABLE XIII: DISTRIBUTION OF SOCIAL FAILURE TYPES[2]

Type		SM	WM	MC	NS
I	Low Failure Potential	1%	2%	2%	2%
II	Medium Failure Potential	57	28	56	82
III	Moderate Failure Potential	22	42	30	16
IV	High Failure Potential	20	28	12	-
TOTAL		100%	100%	100%	100%

As can be seen, very few subjects fell into the low failure potential type. We therefore collapsed types I and II into a single "low failure potential" type and collapsed types III and IV into a single "high failure potential" type. We then analyzed our data using these types as control variables, seeking relationships between social failure and other factors such as race, age, sex, social experience and adult adjustment factors.

Non-whites are significantly more likely to fall into the high failure potential type ($p < .001$), as shown in Table XIV:

TABLE XIV: RACIAL DISTRIBUTION OF FAILURE POTENTIAL

Samples	White		Non-White	
	Low FP	High FP	Low FP	High FP
Schizophrenic Mothers	50%	50%	62%	38%
Welfare Mothers	40	60	27	73
Matched Controls	75	25	53	47
Normal Sample	100	-	66	33
Combined Average	66%	34%	48%	52%

FP = Failure Potential

1. The eleven items were: 1) child reared outside home, 2) parents received

As can be seen for every group, with the exception of the children of schizophrenic mothers, non-whites consistently have higher social failure scores. The relatively high failure incidence for white children of schizophrenic mothers may reflect: 1) different parental arrangements in non-white subcultures, where extended families and non-familial support systems are more common, and 2) the fact that white mothers must generally display greater social disorganization than non-white mothers before they come to the attention of officials.

There is a relationship between failure potential and family size. Growing up in a large family has both positive and negative aspects, e.g., a large family may provide psychological support for its members, but these supports must be measured against the financial problems of providing for a large family. Table XV summarizes the relevant data:

TABLE XV: FAILURE POTENTIAL BY NUMBER OF CHILDREN IN FAMILY

Samples	Number of Children in Family			
	Three or less		Three or more	
	Low FP	High FP	Low FP	High FP
Schizophrenic Mothers	81%	19%	44%	56%
Welfare Mothers	39	61	27	73
Matched Controls	69	31	44	56
Normal Sample	80	20	100	-

Among the children of the poor, larger families were more likely than smaller families to fall in the high failure potential type. This finding statistically was most significant for children of schizophrenic mothers. A large family presents a particularly difficult problem for a schizophrenic mother.

We have indicated that a high degree of residential mobility during a child's developmental period may result in feelings of social disorganization, psychological anomie due to the loss of stable peer groups and a sense of impermanence in the home. We examined the mobility of the subjects with reference to social failure scores, and the results are shown in Table XVI.

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public assistance, 3) child had deviancy records, 4) social problem in home, 5) child had juvenile delinquency record, 6) child had mental health referral, 7) child was in foster home or institution, 8) child failed in school or dropped out, 9) child suffered parental neglect, 10) child had alcoholic parent, 11) child had parent who was a drug addict.

2. See Appendix for graphic displays of Failure Potential Distributions.

TABLE XVI: FAILURE POTENTIAL BY RESIDENTIAL MOBILITY

Samples	Three or less moves		Four or more moves	
	Low FP	High FP	Low FP	High FP
Schizophrenic Mothers	69%	31%	30%	70%
Welfare Mothers	26	74	22	68
Matched Controls	63	37	53	47
Normal Sample	88	12	62	38

A high degree of residential mobility tends to be related to higher failure potential scores. This was statistically significant for the children of schizophrenic mothers, revealing a considerable amount of social disorganization in those families. Children of welfare mothers scored high in social failure potential regardless of degree of residential mobility; this may reflect the common residential milieu of urban ghettoes, since the residential style of welfare recipients is largely determined by the amount of money available in their welfare grants.

It is part of the American myth that a high IQ enables a person to rise above all adverse circumstances. To test this cherished hypothesis we compared subjects who had an above average IQ (110+) with all other subjects (IQ under 110) in regard to their scores on the failure potential scale, as shown in Table XVII:

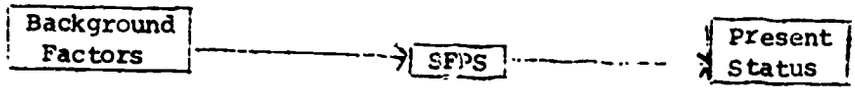
TABLE XVII: IQ DISTRIBUTIONS OF FAILURE POTENTIAL CASES

Samples	Above Average IQ		Below Average IQ	
	Low FP	High FP	Low FP	High FP
Schizophrenic mothers	60%	40%	32%	68%
Welfare mothers	25	75	29	71
Matched controls	23	77	52	48
Normal sample	90	10	88	12

For all but children of welfare recipients fewer children with above average IQ scores fall into the high failure potential group than do children with lower IQ scores. For welfare children however, three-fourths score as high failure potential types irrespective of a high IQ level. High IQ's do not save these children: intense and prolonged poverty carries more weight than individual potential. It is more difficult to break out of the welfare cycle than to pass out of the shadow of a mentally ill mother.

The Social Failure Potential Scale (SFPS) can be utilized as an intervening variable between the independent variables (i.e., the innate background factors) and the dependent variables (i.e., the actual social and mental status of the children fifteen years later). Given the race, number of children in family, residential mobility and IQ of a child, we could predict his present

social and mental status by his failure potential score. We have shown that there are significant relationships between these social factors and scale scores; persons who score high failure potential scores are more likely to be non-white, to come from large families, to have below average IQ's, etc. Given these control factors on the independent variables, our analysis would then proceed through the intervening variable (failure scale) to the dependent variable (present status). The prediction model is as follows:



Independent Variable	Intervening Variable	Dependent Outcome Variable

We predict that subjects with a low failure potential score will obtain a more socially acceptable status in their present life style than would subjects scored as high failure potential types. In order to test this hypothesis we would need to actually interview a significant number of our sample children.

V. DETAILED ANALYSIS OF CHILDREN DIAGNOSED AS HAVING MENTAL PROBLEMS

There were no significant differences between the three groups of children of deviants in respect to mental illness records: all three groups differed significantly from children of normals (X^2 $p < .05$). The types of mental illness diagnosis, however, show interesting differences as reflected in Table XVIII:

TABLE XVIII: MENTAL ILLNESS DIAGNOSES

Type of Diagnosis	SM	WM	MC	NS
Schizophrenic	3%	-%	-%	-%
Central Brain Syndrome	-	-	2	-
Personality Disorder	2	2	-	-
Drug Addiction	-	-	2	-
Mental Retardation	1	2	-	-
Other	-	4	6	2

The only schizophrenics diagnosed in this comparison study were children of schizophrenic mothers. However, they accounted for only three cases out of 108 children studied, although according to Heston and Denny (1966), about 50% of the high risk group would be expected to become seriously deviant. Mednick and Schulsinger (1969) found that about 10% of their high risk subjects suffered psychiatric breakdown (20 out of 207 cases). Of these, 12 were admitted to a psychiatric facility or placed under psychiatric care while 8 others were called "severe schizoids, delinquents, alcoholics or manifested bizarre symptomatic behavior."[1] Our findings, given the same behavioral measures as Mednick's study used, would be as follows:

TABLE XIX: TYPOLOGIES OF DEVIANT BEHAVIORS INDICATIVE OF "BREAKDOWN"

Deviance	SM	WM	MC	NS
Schizophrenic Diagnosis	3%	-%	-%	-%
Other psychiatric diagnosis	3	8	10	2
Alcoholic	1	-	0	2
Theft	1	5	2	-
Robbery	5	7	6	-
Assault	3	5	4	-
Totals	16%	25%	22%	4%

As can be seen, our urban sample of children of schizophrenic mothers shows a higher degree of symptomatic behavior than did Mednick's sample (16% to 10%). However, many children reared in homes of poverty or deviancy in urban society show other symptoms of social maladjustment, and that children

1. Op. cit., p. 278.

of schizophrenic mothers are no exception to this rule. While Mednick and Schulsinger found that 12 out of 20 of their high risk deviants were labeled as psychiatric cases, we found only 6 out of 16 to be so defined. We question the validity of including anti-social acts as "symptoms" of high-risk breakdown, since so many other urban poor also engage in these acts yet are not considered "mentally ill."

If we broaden our perspective to include all deviant parents rather than just schizophrenic mothers, the children's psychiatric histories appear as follows:

TABLE XX: DIAGNOSIS CATEGORIES FOR CHILDREN OF ALL DEVIANTS

Sample	Schizophrenia	Other D_x	Total
Mentally Ill Mothers	3%	-%	3%
Mentally Ill Fathers	-	3	3
Schizophrenic Fathers	4	2	6
Convict Fathers	4	4	8

What determines wheter a behavioral symptom will be classified as schizophrenic? There are no clear diagnostic patterns observably at the actual level of symptomology.

Among the subjects discussed above we found 16 persons who had received psychiatric treatment. Among these were three cases of diagnosed schizophrenia, all from families with a schizophrenic mother. The other 13 cases had a range of other diagnoses, such as personality disorders, mental retardation, etc. In Table XXI we present a description of these sixteen cases.

TABLE XXI: DESCRIPTION OF CONDITIONS OF PSYCHIATRICALLY DIAGNOSED GROUP [2]

1. A twenty year old male was brought into the psychiatric ward by his wife because he had taken "crystals". He had threatened bodily harm to his mother and wife and constantly accused them both of unfaithfulness. He started his deviant career at the age of 15 by stealing a car and finished his school in the Youth Authority. He now has an extensive arrest record and has not been able to support his family due to his sporadic work background.

2. A seventeen year old female, who never knew the whereabouts of her father, was an above average achiever in school. She persistently banged her fingers in the door seriously enough to have to be taken to the hospital. A loner who does not relate well with people, she was referred for a psychiatric evaltation by her school and subsequently outpatient treatment.

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2. This table was patterned after the data presented in Mednick, S.A. and Schulsinger, F., Op. cit., Table 2, p. 279.

3. A twenty-six year old female, brought up on welfare in a fatherless home, was forcibly raped four years ago. She developed such an anxiety reaction that two years later she is still receiving psychiatric help.

4. A twenty-five year old female, an honor student in the beginning of high school, had difficulty with a drunken father, who subsequently left the home. She was first seen in outpatient group therapy but could not cope with that arrangement and finally was hospitalized voluntlarily.

5. A twenty-eight year old male, arrested for disturbing the peace while under the influence of alcohol, suffered a "blackout at a party and murdered a man.

6. A twenty-three year old male, with little delinquent history and an average school record, was arrested for burglary and aggressive sexual "acting out".

7. A twenty-year old male, first brought to the attention of the probation department for petty theft while just a youngster, has since been arrested several times for assaultative aggressive behavior and was recently arrested and institutionalized for burglary and drug addiction.

8. A twenty-two year old female whose drunken estranged father would beat and abuse the family despite a restraining order from the court, had a poor school record, stuttered severely since the tenth grade and had other learning problems. She moved out of the house to share an apartment with a friend and her problems subsided. Because of her mother's poor health and physical condition, she had to move back home to help take care of her sisters' illegitimate children. Her stuttering returned and she has developed other personality disorders.

9. A twenty-one year old female prefers to lead a very secluded life. Her mother states that she has been that way since childhood. She was referred for observation to the Martinez General Hospital by an agency that had been working with the family because of the mother's mental illness and hospitalization. She had been in group therapy treatment and is now seeing a private psychiatrist.

10. A twenty-one year old male, whose mother was hospitalized when he was twelve because she "was an illegitimate child and a very light Negro and felt she never fit into either race", is suffering from the same conflicts. He has a record with the probation department for assault and battery. His school and Guidance Clinic records make a note of this.

11. A twenty-eight year old female was reported to be greatly affected at age eleven by her mother's mental hospitalization. She grew increasingly disturbed. The school tried to help, but her father was drinking heavily and she became more violent and unstable. She was first hospitalized at age sixteen for mental illness and volunteered commitment several years later.

12. A twenty year old female whose father died of an alcohol disease state and whose mother was commited to a state hospital, was living in a

series of foster homes. Each time she ran away to see her other sisters, she became increasingly incorrigible and disturbed, admitted taking LSD and smoking pot, and was placed in an institution for distrubed youngsters. She was then committed to a State Hospital.

13. A fifteen year old female, lived in an extremely unstable family that was filled with conflict until a divorce took place, at which time the father took charge of the children. The mother suffers from delusions of persecution and has made threats of homicide and suicide for which she was committed to a State mental hospital. The subject was born with cerebral palsy and was institutionalized after her father beat her. She died in the institution at fifteen years of age.

14. A twenty-four year old female whose mother has suffered two nervous breakdowns for which she was hospitalized, now suffers from neuralgia. She and her sisters were brought to the attention of the probation department due to insufficient parental supervision. While her mother was hospitalized, her father (an Army Chaplin) was in Korea. The family was split up and she was taken by her aunt. She was referred for psychiatric evaluation at the age of 9 and was first admitted to a State mental hospital eleven years ago.

15. A twenty-two year old male was brought up in a welfare home where the father was a "hysterical fanatical religious freak." The mother suffers from migrains and seeks psychiatric help at the County Hospital. The subject has always been a disciplinary problem, and has a record with the probation department for stealing, burglary and mischief. He cannot read, and his school evaluates him as "slow, but not retarded", with emotional difficulties. It was noted that he had an IQ of 75. After working with a psychiatrist he has settled down and has stopped petty stealing, but is now an unwed father. The mother is still a youngster. He is still enrolled in high school and wants to go to a vocational school.

16. A twenty year old female has a broken home situation. Her mother is under psychiatric treatment for extreme nervousness and psychosomatic illness. She has an IQ of 116 but is having difficulties in school. She is becoming obese. Both the daughter and mother are receiving psychiatric care at the County Hospital. Three years ago she wrote a suicide note requesting more help. Presently a psychiatrist is working with her and the family.

We felt that the cases which were diagnosed as schizophrenic did not differ markedly in recorded symptomology from other cases. A question must be raised about the independence of the diagnosis of schizophrenia. That is, was the psychiatrist who assigned the schizophrenic diagnosis aware that the subjects' mother had been previously identified as a schizophrenic? We noted throughout our search of the various agency records that the mental illness of the parent was frequently noted as background data on the subject.

A second question must be raised about utilizing behavioral data such as presented in Table XXI as evidence of the transmission of schizophrenia. Most follow-up studies, such as that of Mednick, et. al., describe their cases as we have. Many of the subjects in all our deviant groups could be

characterized in similar vignettes. These "pathological descriptions" may not be evidence of psychiatric disorders per se, but rather indicators of the difficult and disorganized life style so common within the culture of poverty.

Because of these methodological problems we feel it would be necessary to seek out these subjects for further interviews and independent psychiatric assessment. As it now stands, if we accepted the schizophrenic diagnoses of the children of schizophrenic mothers we would have a "transmission rate" of about 3%; if we included all diagnosed cases we would have a mental illness rate of 6% for these offspring. This is similar to Mednick's rate but much lower than the incidence reported by Rosenthal et. al. in their Index Cases (3 out of 39 diagnosed as schizophrenic, with 10 others with borderline schizoid characteristics)[3]. We had anticipated that as many as 20% of our sample might be schizophrenic, with 50% showing other pathological or socially unacceptable behavior as reported by Heston and Denny. As we have shown, all groups of poor children have high rates of social pathologies--even higher than that found for children of schizophrenic mothers.

If we were to continue in this study we would need to locate, interview and test all subjects in this comparison groups to see how mental disability is distributed and what factors are related to its appearance.

If we use the logic of hereditary transmission to explain some of our findings we would be forced to conclude that poverty is due to some as yet unexplained genetic defect, since the children of the poor have the most dramatic and persistent problems of any of our sample groups. Indeed, the children of schizophrenic mothers seem almost lucky when compared to their playmates who are on welfare.

As can be seen, the greater the conditions of poverty, the less able the subjects were to avoid deviancy records on the basis of intelligence. Bright children of schizophrenic mothers did less well than bright children from normal families, but significantly better than the children of the poor.

In a society strangled by institutionalized racism, how well did non-white children fare as they struggled to escape deviant life styles?

TABLE XXIII: PERCENTAGE OF "ESCAPERS," i.e., PERSONS WHO HAD NO RECORDS OF DEVIANCE

SUBJECTS	WHITE	NON-WHITE
Schizophrenic mother	41%	[illegible]
Welfare mother	13	[illegible]
Matched control	33	[illegible]
Random Normal	88	[illegible]

As can be seen, in most groups white subjects were more likely to escape a record of deviancy than was true for the non-white. Non-white welfare subjects were significantly less able than white welfare children to escape a deviancy record. Even among normal children were significantly less able than whites to escape a deviant record. However, among children of schizophrenic mothers, that finding faded - that is, race did not seem to markedly effect the amount of deviancy noted in the record.

In summary, "escape routes" were available through the educational system for some white, bright children who were not trapped by the sub-culture of poverty. To be white, bright and educated meant that it would be possible to somehow escape from a deviant label, whatever one's pathology or childhood social condition. This finding is as true for children of schizophrenic mothers as for any other group.

VII: STATUS OF PRESENT LOCATION OF SUBJECTS

During the oourse of our work we have been making attempts to obtain relatively current addresses on all subjects. We present the status of the location of subjects in the following table:

TABLE XXIV: PRESENT LOCATION OF ALL SUBJECTS (1971)

	SM	WM	MC	NS
Located, ready to interview	71%	63%	56%	20%
Located, no contact	19	12	24	59
Not yet located, some clues	8	19	14	16
Lost cases	2	5	6	6

As can be seen, we have "lost" only a few cases out of each sample. Most cases continue to reside in the Bay Area, and most others are somewhere in California. For those few cases resident out of the state, some are in military service and will be returning here upon completion of tours of duty. Others could be interviewed by psychiatrists and psychiatric social workers under contract in the locale where they reside.

To develop an estimate of error likely to occur due to "lost cases" we have analyzed the located vs. the non-located cases along a number of variables which might logically be seen as potentially biasing the overall findings. We are considering that all cases with current addresses are "located" and all others are "not yet located".

Since females marry and change their names, it is important to examine the percentages of males vs. females in the non-located group.

TABLE XXV: NON-LOCATED CASES BY SEX

Sample	Male	Female	X^2 Sig. Diff.
Schizophrenic Mothers	15%	6%	n.s.
Welfare Mothers	17	32	n.s.
Matched Controls	22	19	n.s.
Normal Sample	17	25	n.s.

As i shown by the X^2 measures, the sex differences between located and non-located cases are not statistically significant.

We next analyzed the located and non-located cases by age, since subjects who have reached adulthood (over 21 years of age) may have established homes elsewhere and hence be more likely to become "lost cases."

TABLE XXVI: NON-LOCATED CASES BY AGE

Sample	21 years or less	Over 21 years	X^2 Sig.Diff
Schizophrenic Mothers	10%	10%	n.s.
Welfare Mothers	12	34	$p < .05$
Matched Controls	15	26	n.s.
Normal Sample	22	21	n.s.

There are no significant differences in the present ages of the located vs. unlocated subjects, except for children of welfare mothers. Since AFDC budgets do not allow adult children to reside in the home, we would expect some of those adult children to move away, perhaps to other areas to escape the stigma of poverty. Since we have many clues as to the whereabouts of the welfare parents, we could obtain extra follow-up information from them about their "lost children" if necessary.

We analyzed the non-located vs. located cases by the highest educational grade completed by each subject, reasoning that subjects who left school early may have moved out of the community and hence would be "lost". The findings are presented below:

TABLE XXVII: NON-LOCATED CASES BY EDUCATIONAL LEVEL

Sample	Less than H.S.	H.S. Plus	X^2 Sig. Diff.
Schizophrenic Mothers	25%	10%	n.s.
Welfare Mothers	19	31	n.s.
Matched Controls	17	13	n.s.
Normal Sample	28	10	n.s.

There are no statistically significant differences in the educational levels of the located and non-located subjects.

Based on the above findings, we conclude that the lost cases are randomly distributed throughout the various samples, and that future results obtained by using the located cases would not reflect built-in biases of sex, age, or educational attainment.

VIII. SUMMARY AND DISCUSSION

We have presented a wide range of statistical documentation all geared to the same theme: children of schizophrenic mothers are also children of lower-class "deviants", and the extent to which their own later behavior is "deviant" seems to be determined by cultural norms as much as, if not more than, by their experience with parental emotional upsets. If we know that a parent is schizophrenic, what does that really tell us? Is the parent a black schizophrenic or a white schizophrenic? Poor or rich? How many children are in the family? How often has the family changed residence? What is the child's IQ? To postulate "schizophrenics" as a consistent, homogenized group of people is to do violence to the realities of those peoples' lives.

Research on the parenting roles of schizophrenics has generally made ominous but poorly documented predictions about the dire effects of living in a home with a schizophrenic mother. How can we have found that children who remain in the home with schizophrenic parents do "better" (i.e., avoid official trouble) than do children who are removed from the emotionally troubled setting and placed in alternative homes? Research on the genetic implications of schizophrenia predicts that a set percentage of children cannot escape the shadow of their parents' illness. How can we have found <u>at most</u> only a 3% "transmission rate" for the dread disease?

The essential methodological problem has been deceptively simple: given the fact that state mental patients tend to be poor and beset by social difficulties of all kinds, how do you trace out the etiological contributions of heredity versus those of the environment? Our comparison group system allowed us to hold certain environmental factors constant, giving us leeway to search for possible genetic factors. As the study proceeded, however, it became clear that the similarities with our comparison groups were greater than the differences, and that <u>all</u> the sample groups could be thought of as members of a larger, more abstract class: <u>children of deviants</u>.

In a real sense we have not studied children at all. We have studied children's records -- those things that someone wrote down about real people. When you take a picture of a cell through an electron microscope, you do not really see the cell at all, just a hardened, shell-like corpse of a cell that has been specially prepared for viewing by beams of electrons. You must kill the cell in order to prepare it for observation. Have our children been "killed" in a similar manner, charted and numbered and filed away years ago by teachers and police and psychiatrists? A whole army of gray record-keepers has been standing between us and these children, regulating the flow of information we receive. We have seen their shadow but not their substance.

Our analysis has proceeded along three dimensions: background, experience, adjustment. The first dimension consists of relatively objective data such as race and sex. The second enters the realm of the record-keepers, for "experiences" that are noted down tend to be bad rather than good. If all is well, no note needs to be kept. Furthermore, what would

upset one record-keeper might amuse another or be ignored by a third. What experience variables were never recorded? The third variable is almost impossible to capture in records. We may define "success" in behavioral terms, if we wish: "success" is going to college, "success" is not being on welfare, etc. But do "successes" of these kinds necessarily bring happiness? What texture do these outcomes have? To know that, you must talk with a subject and see him laugh and frown. Records have no affect.

The world of the lower class is an alienating world. It does much to challenge ego-strength and little to sustain it. Most of our sample population live in classic multiproblem families. Residential transience, welfare, foster and adoptive homes, black skin -- these are the truly important variables, beside which the schizophrenia of a mother pales in comparison. We have done a study of recorded deviance. Rich, bright whites do not tend to leave behind records of deviance.

Schizophrenia is in the eye of the beholder. Perhaps the only true definition of the illness is that "a schizophrenic is any person who has been diagnosed as a schizophrenic." We have seen that as far as actual symptomology goes, the poor exhibit just as much, if not more, bizarre and antisocial traits as persons diagnosed as schizophrenic. Are those poor people merely "undiagnosed schizophrenics," or is the whole diagnostic category of questionable value?

How could any child escape the conditions we have seen? What miracle of adjustment saves them from complete despair? Our use of the Social Failure Potential Scale has shown that as far as social disfunction goes, welfare children have far less chance of escaping their parent's disability than do children of schizophrenics. Are the genetic flaws that induce poverty even more virulent than those that induce schizophrenia? Or is the cause to be found in the structure of this society?

The time has come to take a hard look at our entire mental health diagnostic system. What does the word schizophrenia mean? What actual symptomology is associated with it? How often do upper-class professional people reinterpret the stresses of poverty as stresses of the soul? We feel we have seen the problem. We would look now for a solution.

APPENDIX A. INDEX TO TABLES